

## SUPPLEMENTARY FILE

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### **A. INSTALLASI NDNSIM VER-2.1**

Sumber: <https://ndnsim.net/2.1/getting-started.html>

1. Install dependency packet yang dibutuhkan:

```
$sudo apt-get install build-essential libsqlite3-dev libcrypto++-dev
```

```
$sudo apt-get install libboost-all-dev
```

```
$sudo apt-get install python-dev python-pygraphviz python-kiwi
```

```
$sudo apt-get install python-pygoocanvas python-gnome2
```

```
$sudo apt-get install python-rsvg ipython
```

2. Membuat folder ndnSIM-2.1

-problem: pybindgen yang biasa digunakan "github.com/named-data-ndnSIM/pybindgen.git" sudah terupdate [may 31] tidak ada version.py

- try to solved: menggunakan "github.com/cawka/pybindgen.git pybindgen [BERHASIL]

```
$mkdir ndnSIM2.1
```

```
$cd ndnSIM2.1
```

```
$git clone -b ns-3.23-dev-ndnSIM-2.1 https://github.com/named-data-ndnSIM/ns-3-dev.git ns-3
```

```
$git clone https://github.com/cawka/pybindgen.git pybindgen
```

```
$git clone -b ndnSIM-2.1 --recursive https://github.com/named-data-ndnSIM/ndnSIM.git ns-3/src/ndnSIM
```

```
$cd ns-3
```

```
$. /waf configure -d optimized
```

```
-->problem= pybindgen (found '0.19.0.post4+g823d8b2') (need  
'0.17.0.post45+ng4806e4f')
```

```
-->solved= cd /home/ndnSIM2.1/pybindgen/pybindgen/version.py
```

= kemudian ubah version dari yang found ke yang need

= lakukan config ulang (./waf configure -d optimized dan ./waf)

```
$. /waf
```

```
$sudo ./waf install
```

### 3. Compile ndnSIM dan build

```
$cd ns-3
```

```
$. /waf configure --enable-examples
```

```
$. /waf
```

### 4. Running example dengan virtualizer

Dalam direktori ns-3 `./waf --run=<nama-file>` Jika ingin melakukan

running scenario example "ndn-simple", `./waf --run=ndn-simple --vis`

### 5. Untuk menampilkan delay tracer yang disimpan dalam bentuk \*.txt, Tambahkan command berikut dalam program "ndn-simple.cpp" . pertama buka dahulu dengan command "gedit ndn-simple.cpp" pada direktori

```
$cd ndnSIM/ns-3/src/ndnSIM/examples
```

Kemudian exit sampai di `cd ns-3`

```
$cd ../../../../
```

```
// Calculate and install FIBs
```

```
ndn::GlobalRoutingHelper::CalculateRoutes();
```

```
Simulator::Stop(Seconds(20.0));
```

```
ndn::AppDelayTracer::InstallAll("app-delays-trace.txt");
```

```
Simulator::Run();  
Simulator::Destroy();
```

6. Untuk melihat hasil delay tracer nya buka di file ndnSIM dan pilih “app-delay-trace.txt”

7. Untuk setiap configure dan compile ns-3 lakukan command dibawah ini:

```
$cd ndnSIM  
$cd ns-3  
$./waf configure -d optimized  
$./waf
```

## B. CLONNING NDNS DALAM NDNSIM

```
git clone git://github.com/spirosmastorakis/ndns-scenario.git
```

```
$cd ndns-scenario  
$git clone git://github.com/spirosmastorakis/ndns.git  
$export PKG_CONFIG_PATH=/usr/local/lib/pkgconfig  
$export LD_LIBRARY_PATH=/usr/local/lib:$LD_LIBRARY_PATH  
  
$./waf configure  
$cd ndns  
$./waf configure  
--> liblog4cxx not found  
>># sudo apt-get install liblog4cxx-dev >> ./waf configure  
[BERHASIL]  
--> libndn-cxx not found  
>> copy ndn-cxx dari ndnSIM2.1/ns-3/src/ndnSIM ke  
ndns-senario/ndns  
  
$cd ..
```

```
$. /waf
```

```
--> problem: ../extensions/ndns-update.hpp: fatal error:  
ns3/ndnsim-module.h: No such file or directory
```

```
--> solved: open di file /home/sesharianarm/ndns-  
scenario/extensions/ndns-update.hpp
```

```
ubah ns3/ndnsim-module.h menjadi ns3/ndnSIM-module.h (./waf lagi)  
[BERHASIL]
```

```
$ ./waf --run ndns-5clients2Servers --vis
```

Leanna's blog Tel-U